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H. ARMSTRONG ROBERTS

NAVAJO BOYS LEARN TO READ, SOMETHING FEW OF THEIR ELDERS CAN DO

The classroom shortage on the nation's biggest Indian reservation (Bulletin No. 3) has been somewhat relieved by the opening of a new 750-seat school in Shiprock, New Mexico. Also, 2,000 Navajo children are enrolled in a huge off-reservation boarding school at Brigham, Utah.

Bulletin No. 1, March 27, 1950

St. Lawrence Icebreakers Break 1949 Record

BREAKING all records in their annual battle to free the frozen St. Lawrence River, the sturdy Canadian icebreakers *N. B. McLean* and *Ernest Lapointe* battered their way into Montreal's silent harbor the first week end in March. The early arrival ended an upriver offensive from Quebec, the capital of Quebec Province. It clipped more than two weeks off the previous record, set in 1949.

Below the city of Quebec the mighty river that drains the Great Lakes seldom freezes over. But in the 160-mile stretch from Quebec to Montreal thick shore-to-shore ice forms (illustration, next page). Jamming at narrow points during spring thaws, it once caused serious floods. Since 1908 government icebreakers, beginning in February, have cleared a channel between the two cities and kept ice floes moving. This winter's freeze-and-thaw temperatures, threatening early floods, started the campaign in January.

Trophy for First to Dock

Port officials in Montreal point out, however, that an open channel now does not necessarily mean an early opening of the city's big harbor. Ice conditions in the Gulf of St. Lawrence, several hundred miles farther northeast, determine that. Aerial surveyors fly over the gulf to give the "all clear" to ocean freighters when ice-floe danger is past. To be safe, shipping companies do not start scheduling Montreal calls until about April 15.

Usually, some days before this date tramp steamers nose into the gulf and race upriver to open the Montreal shipping season. To the first deep-sea skipper in port each year the city awards a gold-headed cane. Last year Captain A. S. Baxter set an all-time record by docking the *Mont Alta* on April 8.

River icebreaking has added two weeks to Montreal's shipping season. Formerly the gulf was clear of ice before the river. Now Canada's great highway of ocean trade, carrying more than a third of the country's foreign commerce in a seven-month season, is ready for business whenever the gulf is open.

1,000 Miles from Open Sea

Far-sighted Montrealers brought the sea to their front door by digging a ship canal, begun in 1851, to deep water at Quebec. Montreal thus became the open-season gateway to the world for most of Canada between the Rockies and the Maritime Provinces.

Deep-sea freighters from the world's far-flung ocean trade routes, and some passenger liners, steam 1,000 miles upriver past lush farms and grazing cattle to dock in Canada's biggest city. In a normal year its bustling port handles 11,000,000 tons of general cargo and some 67,000,000 bushels of grain.

Canada's two transcontinental railway systems bring in most of the

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MOORS IN FRENCH-OWNED ALGIERS (Bulletin No. 5) SIP AND CHAT IN A PARISIAN-TYPE SIDEWALK CAFE

Bulletin No. 2, March 27, 1950

Alexander's Gordian Knot Site to Be Probed

ARCHEOLOGISTS, ever digging into the secrets of the remote past, are about to probe the roots of a still-current expression, "to cut the Gordian knot."

The expression, meaning to slice through complications, is said to have originated in the ancient city of Gordium (Gordion), in what is now west central Turkey, where a University of Pennsylvania expedition is expected soon to start work. It was at this site, according to legend, that Alexander the Great cut with his sword the intricately tied knot which he found would yield in no other way.

Peasant Made King

The history of the Gordian knot reaches back to the traditional founding of the city. In mythological times, the people of the Asia Minor kingdom of Phrygia had been told by an oracle that they should accept as their king the first man to drive up in a wagon to the temple of the god Zeus.

A peasant named Gordius reached the temple, the story goes, and his fellow Phrygians proclaimed him their ruler. At the site of the temple, the new king established his capital and called it Gordium. He dedicated his lucky wagon to Zeus and placed it in a spot of honor in the temple.

It was noticed, however, that the curiously interwoven bonds of bark which held together the yoke and pole of Gordius's wagon defied separation. So another legend grew up—that the future master of all Asia would be the man who could untie the difficult knot.

In the fourth century B.C., the old prophecy apparently attracted the attention of the young Macedonian warrior-king, Alexander III, who was just then starting on his world-ranging plan of conquest.

Phrygian History Hazy

After several successful European campaigns, Alexander, in 334 B.C., led his armies across the Hellespont into Asia Minor to challenge the power of Darius, the Persian king. All the coastal cities and fortresses fell before the Macedonian, who then marched inland to Gordium, where the slicing of the knot promised him the still greater victories that were to come.

On the city of Gordium itself and the ancient kingdom which surrounded it, information is sketchy and legendary. The Phrygian civilization, concerning which the expedition of the University of Pennsylvania hopes to uncover archeological proof, is believed to have flourished some 2,700 years or more ago.

The Phrygian holdings at their maximum are estimated to have covered much of Asia Minor. The kingdom's strategic heartland was concentrated in the Sakarya valley and plateau area west and southwest of the modern Turkish capital of Ankara. The Phrygian people were largely herdsmen and small farmers.

Gordium was the capital of the Phrygian kings who reigned around

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goods to be shipped out. But small steamers from the Great Lakes carry in some of Montreal's trade. These vessels avoid Niagara Falls by using Canada's deep Welland Canal. They then make their way down the turbulent St. Lawrence. Twenty-two locks in six short canals carry them around such rough spots as the Lachine Rapids, just upstream from Montreal. The river drops 225 feet between Lake Ontario and the city.

During the five months that Montreal is frozen in, railroads haul its exports to Halifax, Nova Scotia, a year-round port on the open sea.

NOTE: The St. Lawrence and its ports may be located on the National Geographic Society's map of Canada, Alaska & Greenland. Write the Society's headquarters, Washington 6, D. C., for a price list of maps.

For additional information, see "Quebec's Forests, Farms, and Frontiers," in the *National Geographic Magazine* for October, 1949; "Exploring Ottawa," November, 1947*; "New Brunswick Down by the Sea," May, 1941; "Salty Nova Scotia," May, 1940; "Gentle Folk Settle Stern Saguenay," May, 1939; "Old France in Modern Canada," February, 1935; and "Quebec, Capital of French Canada," April, 1930. *(Issues marked with an asterisk are included on a special list of Magazines available to teachers in packets of ten for $1.00.)*

See also, in the GEOGRAPHIC SCHOOL BULLETINS, April 26, 1948, "Canada Helps Move Great Lakes Shipping."

WIDE WORLD

ON THE SLOPES ABOVE THE FROZEN ST. LAWRENCE, CHILDREN FIGHT THE "BATTLE OF QUEBEC" WITH SNOWBALLS INSTEAD OF CANNON BALLS

Solid river ice does not extend below the city of Quebec. But from there upstream to Montreal, Canada's leading city, the great stream is closed to navigation five months of the year.

Bulletin No. 3, March 27, 1950

Poor Navajo Lands Have Scenic Riches

THE movies have made millions of Americans familiar with Navajo land. Many companies go "on location" in Monument Valley, the Painted Desert, and other scenic sections of the vast Navajo Indian Reservation in Arizona, New Mexico, and Utah. The scenes, except when the cavalry is charging or the Indians take to the warpath, show a vast, arid emptiness. Yet among those rainbow-hued mesas and wind-eroded rocks live more than 60,000 Navajos, largest tribe in the United States.

The Navajos are shepherds (illustration, next page), silver workers, and blanket weavers. They farm a little. Sometimes they go off the reservation to work on the Santa Fe Railroad. They occasionally get a windfall as extras and laborers on movie locations. But whatever they do, they are Navajos first, last, and always.

Tall, Straight, and Flint-eyed

Few other Indian groups have retained their tribal identity so completely. The Navajos are really a nation. There are at least seven times as many living today as when the tribe went on the reservation in 1868. They have their own language. About 90 per cent cannot speak, read, or write English. They possess a fierce spirit of independence and pride. Their own name for themselves is Dineh, which means "The People."

The Navajo man is tall, unlike his squat Pueblo Indian neighbor. He stands straight and looks out on the world through flinty eyes slitted since youth against bright sun and flying sand. He wears the colorful cowboy shirt and blue jeans of the West. His belt, however, is usually decorated with fine silverwork that he made himself.

Mrs. Navajo displays turquoise jewelry and more silver—in belts, beads, and bangles. She wears a velveteen blouse and full skirt. While the men of the tribe are following their flocks or are away working for wages, she weaves her world-famous blankets. Each is an original design. She usually produces four a year. They bring her about 15 dollars apiece—or a few pennies an hour for her time.

Infant Mortality Rate High

The Navajo family lives in a crude, but serviceable, one-room hut called a hogan. Its thick circular walls keep out summer's heat and winter's cold. A family lives at one place until near-by grazing areas have been exhausted. Then they move and build a new hogan. To this extent the Navajo is a nomad. He lives an isolated life with his family, seldom clustering with others in villages as do the Pueblo Indians.

There are always many children around the hogans (illustration, cover). Though the Navajo infant-mortality rate is six times higher than that of the rest of the United States, still the Navajos have increased at a faster rate than the country as a whole.

Before the white man reached the Southwest the Navajos had migrated from Canada and settled among the Pueblo Indians. They acted out the ant-and-grasshopper fable with the Pueblos. The industrious town

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the eighth century B.C., and maintained close contact with the Greeks. Known variously as Gordius and Midas, these rulers included the fabulous King Midas whose touch turned all to gold.

With the Phrygian decline, the territory became a battleground between Western and Eastern forces. Gordium fell to the Gauls around 189 B.C., and only a small village survived. The ancient ruins lie about 65 miles southwest of Ankara, near the Istanbul-Ankara railway.

NOTE: The area of the Gordium exploration may be located on the Society's map of Bible Lands and the Cradle of Western Civilization.

For additional information on Turkey, see "Peasants of Anatolia," in the *National Geographic Magazine* for July, 1948; "The Turkish Republic Comes of Age," May, 1945*; "Alert Anatolia" (13 photographs), April, 1944; "On the Turks' Russian Frontier," September, 1941; "Turkey, Where Earthquakes Followed Timur's Trail," March, 1940; and "The Transformation of Turkey," January, 1939*.

See also, in the GEOGRAPHIC SCHOOL BULLETINS, November 21, 1949, "Turkish Coast Visited by U. S. Fleet"; and "New Oil Adds Turkey to 'Black-Gold' Lands," April 12, 1948.

MAYNARD OWEN WILLIAMS

IN SPITE OF MODERNIZATION, LIFE IN SOME SECTIONS OF TURKEY GOES ON MUCH AS IT MUST HAVE IN ALEXANDER'S TIME

In perfect rhythm, three women pound the wheat in a stone cylinder to separate the hull from the grain—a method of milling old as agriculture. Children play in a can of hulled wheat. Later the grain is soaked, cooked into a porridge, and eaten with sour-milk curds.

Bulletin No. 4, March 27, 1950

Gulf Fleets Join Florida Shrimp Rush

SOMETHING new in "rushes" has livened the southwest coast of Florida from Naples to Key West. A shrimp rush, no less exciting than a gold rush, has drawn to those Gulf of Mexico waters about half the fleet that usually nets shrimp in the Gulf and the Atlantic.

Between 200 and 300 boats have left the shrimp fishing grounds off New Orleans and Mobile and in Atlantic waters. They have joined the growing fleet along the 50-mile stretch of Florida coast. From a vast recently discovered bed of the popular crustacean, some 200,000 pounds of shrimp weekly are pouring into nets.

Shrimp Tops List in Poundage

The succulent shrimp, currently spurring trawler crews to profitable harvesting on the new feeding grounds, is king of the shellfish. By weight, the shrimp catch in American waters far exceeds that of any other variety of shellfish.

The postwar shrimp average—180,000,000 a year—is more than one-third of the shellfish total. Crabs—in second place—run two-thirds of the shrimp poundage. Oysters weigh less than half. Clams, lobsters, and scallops are lightweights by comparison.

Since 1937, when a huge supply of giant-size shrimp was found off Louisiana's coast, more than three-fifths of the shrimp catch has come from Louisiana waters alone. Another fifth of the annual haul comes from elsewhere along the Gulf.

Florida, vying with Texas, could outproduce the latter if the Key West strike is as large as expected. Mississippi and Alabama catch a very large haul of shrimp considering how short their Gulf coasts are. Georgia and the Carolinas complete the major shrimping areas.

Shrimp are taken even in Maine and Alaska waters, but not much more than one per cent of the big harvest comes from outside the Texas-to-North Carolina reach. Since 1946, a large supply of shrimp from Mexican fisheries has been rushed to United States consumers.

Latest Shrimp Is Pink, Uncooked

Lee Yim, from Canton, China, initiated commercial shrimping in the Gulf of Mexico in the 1860's. He built Louisiana's first drying platform and began processing dried shrimp and shrimp bran. About one-tenth of the catch is dried. Most of this is exported to Hawaii, the Philippines, and China. Shrimp bran—the ground-up shells and head fragments—makes a high-protein feed for livestock.

A shipment of 100,000 pounds of the new Florida shrimp recently reached New York wholesalers. It sold for somewhat less than the market price because of its pinkish color. Fish buyers and housewives were suspicious of uncooked pink shrimp. Used to the more usual gray-green variety which turns pink in cooking—or, uncooked, as it spoils—they will have to learn to accept the latest shade in raw shrimps.

Although the abundance of the Florida haul has brought prices

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dwellers worked hard all summer raising corn. Then the wandering Navajos would raid the granaries. Through the Spanish and American conquests the Navajo was feared and despised as a bandit.

Kit Carson cleverly bottled up the Navajos in exitless Canyon de Chelly and the United States Army transplanted the entire tribe to a post in southern New Mexico in 1863. Four years later the Indian leaders signed a peace treaty with the United States agreeing never to make war again—a pledge they have kept.

The United States half of the bargain was to give back to the Navajos their own country as a reservation. The Navajo tract today is larger than nine individual eastern states. But it is overcrowded and badly overgrazed. The increasing population can no longer support itself on the limited number of sheep that can graze on the sandy ranges.

NOTE: The Navajo lands may be located on the Society's map of the Southwestern United States.

For additional information, see "Ancient Cliff Dwellers of Mesa Verde," in the *National Geographic Magazine* for September, 1948; "Indian Tribes of Pueblo Land," November, 1940; and "Seeing Our Spanish Southwest," June, 1940.

See also, in the GEOGRAPHIC SCHOOL BULLETINS, December 8, 1947, "United States Indian Population Increases."

W. T. MULLARKY

FORBIDDING AS IT SEEMS, ARIZONA'S CANYON DE CHELLY IS CHOICE NAVAJO GRAZING GROUND

Only five or six inches of rain fall each year on the Navajo Indian Reservation, which fills three of the "four corners" where Arizona, New Mexico, Utah, and Colorado come together. When enough rain falls to make streams flow, this deep canyon bottom becomes wet and green. After downpours, it is a river. Then Navajo shepherds must drive their flocks to high ground. A prehistoric people lived in large caves on the cliffside; ruins of adobe buildings are still intact.

Bulletin No. 5, March 27, 1950

Motorcade Planned from Algiers to Capetown

NEW roads, many built during and after World War II, are letting light into the "Dark Continent." To make known Africa's vast network of highways—some good and some bad—a 9,000-mile motor caravan, or motorcade, is planned for late this year. It will span the continent from Algiers (Alger) on the Mediterranean to Capetown near the southernmost tip.

Fifty years ago Cecil Rhodes, Britain's empire builder in Africa, dreamed of a Cape-to-Cairo railroad entirely in British-controlled areas. That railroad is still far short of completion, but a highway system now connects those two African poles. The motorcade, however, will pass through English areas for only about one-third of the distance. The rest is French and Belgian territory.

Not as Simple as Driving to Dubuque

Mountains, deserts, jungles, inland seas, mighty unbridged rivers, deep valleys, plunging cliffs, featureless plateaus, and thundering waterfalls will greet the adventurous motorists. Their trek will be similar to the Glidden Tours of early motoring days in America when certain motorists proved that the trip from the Atlantic to the Pacific could be done. Their success paved the way for millions to come.

In addition to terrain difficulties, the travelers will have to contend with primitive accommodations, sullen if not actively hostile native groups, wild animals at the roadside, and restricted areas where the mining of precious metals makes visitors unwelcome.

They will not expect superhighways, motels, or gas stations at every crossroad. They will not even expect many crossroads. They will camp out much of the distance. They will need extra gas tanks, more than one spare tire, and more than the usual motorist's endurance and nerve.

Leaving the Moor-French city of Algiers (illustration, inside cover), the drivers will cross the snow-topped Atlas Mountains on good highways. Then they drop into the Sahara where roads follow the hardened-sand tracks left by marching Free French armies in World War II. Guidebooks warn motorists to "rush difficult sand," watch for sharp, tire-cutting stones on the road, and avoid water channels "sufficiently deep and abrupt to break springs."

From Desert to Steaming Jungle

Leaving Fort Laperrine (Tamanrasset)—about 1,000 miles out of Algiers—the road "passes through fields of broken stone and continues into a rocky wilderness of jagged peaks, rounded domes, and flat-topped mountains." Travelers are told to camp on the desert, tackling shifty sand in the early morning when it is firmer.

After 2,300 miles, Kano, Nigeria (illustration, next page) is reached, introducing the sight-seers to equatorial Africa. The next leg of the journey—to Irumu, Belgian Congo—is about the same distance. It passes fields of ant hills, nears the salt-crusted shores of Lake Chad, crosses

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down somewhat, shrimpers are not worried. They believe the beds are so extensive that mass sales will overcome the price drop. Some hauls have netted more than twice the usual weight.

In the belief that the new shrimp grounds will provide a permanent industry for the area, towns along the coast are improving their waterfronts and building warehouses and docks.

Key West, President Truman's favorite southern vacation spot, is one of the most active ports. Fort Myers, Everglades, Naples, and Punta Gorda each gets its share of the trade.

About 70 per cent of the new Florida haul is being processed in frozen-food plants along the Atlantic coast from Miami to New York. To keep the shrimp from spoiling, local dealers are importing carloads of ice from neighboring towns.

Canning, begun in 1867, brought Gulf coast shrimp to dinner tables all over the world. With improved refrigeration and quick-freeze methods, canning now accounts for only about one-fifth of the catch. Close to half goes to market fresh, between layers of ice. Some of this is flown; much of it is driven in big refrigerator trucks. With two drivers alternating, these trucks make non-stop runs to distant city markets.

J. BAYLOR ROBERTS

A SMILING SHRIMPER SHOVELS SHRIMP FOR SALAD

Shrimp travel in small boats, between layers of ice, from trawler to cannery. There they are beheaded and delegged. Boiling curls them in the familiar pink rosettes. Quick-freeze methods have cut the proportion canned from a half to about a fifth.

Shrimp are caught around the calendar. August through December is the most productive period.

NOTE: Florida is shown on the Society's map of the Southeastern United States.

See also "From Indian Canoes to Submarines at Key West," in the *National Geographic Magazine* for January, 1950; "The Delectable Shrimp," October, 1944; "How We Use the Gulf of Mexico," January, 1944*; "South Florida's Amazing Everglades," January, 1940; and "Florida—The Fountain of Youth," January, 1930.

steaming French Equatorial Africa, and enters the mist-filled jungles of the Congo. At Watsa, Belgian Congo, the motorists are warned to "shun resthouse, petrol, garage, and telegraph." Gold is mined there and strangers must get permission to "circulate" in the town.

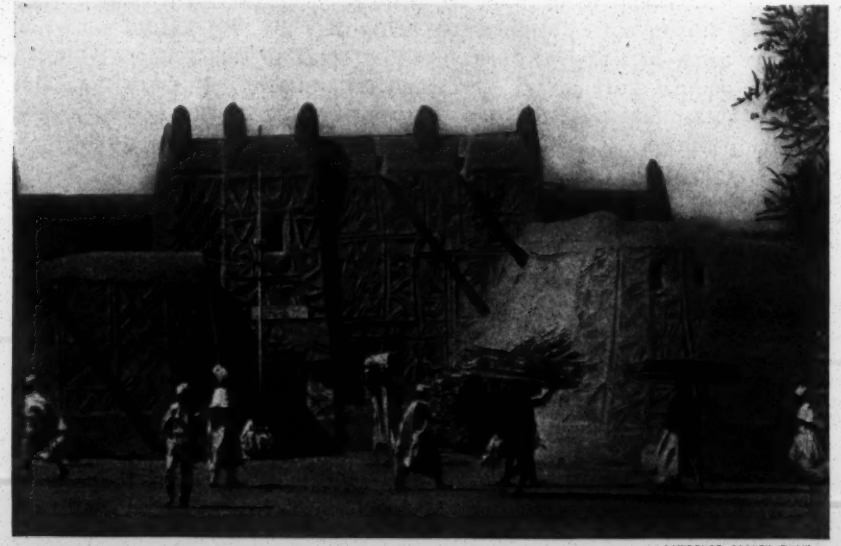
The next lap—2,000-odd miles through the Belgian Congo and Northern Rhodesia—takes the travelers through the Ituri forest, home of the pigmy tribes. Then they cross the Equator and climb to the top of Kabasha Escarpment along a 12-mile road cut in the face of the cliff. To the east rise the snow-capped Ruwenzori—the Mountains of the Moon—where elephants, buffaloes, lions, and leopards roam up to 13,000 feet.

South are fantastic volcanic peaks soaring from the shore lines of blue Kivu, highest lake in Africa. There a swim may be enjoyed without crocodiles, hippopotamuses, or mosquitoes. Beyond the lake stretches Albert Park, a vast unmolested reserve for native African animals and plants, conceived by American naturalist Carl Akeley, who is buried there.

In the Katanga region of the Belgian Congo lie some of the world's richest uranium deposits. The motorists parallel a railroad line into British territory and cross Northern Rhodesia to Livingstone. Victoria Falls, Johannesburg, and Pretoria are on the 1,800-mile route from there to journey's end at Capetown.

NOTE: The motor trail from Algiers to Capetown may be traced on the Society's map of Africa.

For further information, see "Nigeria: From the Bight of Benin to Africa's Desert Sands," in the *National Geographic Magazine* for May, 1944*; "Eastward from Gibraltar," January, 1943*; "Timbuktu and Beyond," May, 1941; and "Trans-Africa Safari," September, 1938*; and, in the GEOGRAPHIC SCHOOL BULLETINS, February 2, 1948, see "UN Agreement Reached on Togoland Ewes"; and "British Plans Affect Varied Africa Holdings," March 21, 1949.



LAWRENCE COPLEY THAW

SCULPTURED MUD WALLS IDENTIFY KANO, AMAZING NIGERIAN CITY OF BLACK MOSLEMS

The Emir of the Hausas reigns here under British protection in bewildering splendor and with absolute power over his 2,000,000 subjects. Eleven miles of these walls encircle the city of 80,000. Gates are of cowhide. Outside the walls, British residents enjoy cricket and polo at a country club.